FINDING OF NO SIGNIFICANT IMPACT

Repave and Rehabilitate A Portion of the Lassen Volcanic National Park Highway (Mileposts 6.7 to 28.4) Environmental Assessment, Lassen Volcanic National Park
March, 2006

Introduction

The National Park Service (NPS) has completed the environmental analysis process on proposed road rehabilitation in Lassen Volcanic National Park.

A portion of the roadway in Lassen Volcanic National Park underwent rehabilitation in 2002. That project was described in the 2001 Environmental Assessment: Repair and Rehabilitate Main Park Road and Manzanita Lake Campground Entrance Road. It consisted of the repair of 7.9 miles (12.7 kilometers) of the main park road, beginning at the south entrance, and 0.6 miles (0.96 kilometers) of the road beginning at the north entrance.

In the preferred alternative, described in this Environmental Assessment, the National Park Service will complete the rehabilitation of the Lassen Volcanic National Park Highway (remainder of the main park road), a distance of about 21.7 miles (34.9 kilometers). Project work will also include repair and rehabilitation of the campground loop roads at Manzanita Lake, Crags Campground, Lost Creek Campground and North and South Summit Lake campgrounds. Rehabilitation will begin at the end of the previous rehabilitation project, just north of the Bumpass Hell Parking Area, and will extend northward to where the Phase I project concluded at the Manzanita Lake Campground Entrance Road. Like the former project, the preferred alternative will include repaving and rehabilitation of numerous areas along the route, including pullouts and spur roads providing access to campgrounds and picnic areas.

Due to funding uncertainties, this project may be split into two phases that will be constructed two to three years apart, each phase requiring approximately 1- 1/2 summer seasons to complete. The first phase will likely begin in summer of 2006 or 2007. The environmental analysis, however, was completed for the entire project as a whole. The potential splitting of the project into phases will not alter the findings of the environmental analysis.

This project will be designed and administered by the Central Federal Lands Highway Division (CFLHD) of the Federal Highway Administration (FHWA) in cooperation with the National Park Service, Lassen Volcanic National Park.

Purpose and Need

The remaining approximately 21.7 mile (34.9 kilometer) portion of the Lassen Volcanic National Park Highway not encompassed by rehabilitation work in 2002- 2003 is at the end of its normal service life. Oxidation has caused the asphalt to become brittle and to begin to erode from the outer edge of the pavement inward, creating hazardous driving conditions and narrowing lane widths. Age, weather and heavy use have contributed to deterioration of the roadway surface, leading to warped pavement, pavement cracking, asphalt spalling on the edge of the road, and increased potholing. The road therefore needs comprehensive repair and rehabilitation. This is further evidenced by escalating maintenance costs in recent years to keep the road in fair condition for heavy summer visitor use and to ensure safe passage in winter for snow- plowing operations. The costs to repair the road have averaged over $50,000 a year since 1995 and have included emergency repairs of road failures due to washouts.

The need for repaving and rehabilitation of this road subsequent to the completion of the park General Management Plan has also resulted in an opportunity to implement some aspects of that plan with respect to the roadway improvements it calls for. These improvements include analysis

of pull- outs and visitor use parking areas for rehabilitation, restoration and continued use to better preserve adjacent park resources and to improve the visitor experience and to reduce safety hazards associated with visitors pulling on and off the road at poorly located pullouts. The opportunity also exists to remedy some long- term impacts caused by the physical design of the road, including the placement of new culverts and other drainage features where needed, especially in the vicinity of the Lassen Peak Parking Lot and Dersch Meadows, as well as to ensure that the project actions are consistent with the recently completed Wayside Exhibit Plan and the direction in the GMP. In addition, many feet of non- historic road curb lines the main road, presenting a safety hazard while plowing snow. Finally, the opportunity exists to remedy effects of some of the emergency repairs conducted in recent years which have had incremental effects on the aesthetic character of the road, including characteristics which make it eligible for the National Register of Historic Places.

The main park road was recently re- designated the Lassen Volcanic National Park Highway in an analysis of its eligibility for inclusion on the National Register of Historic Places as a cultural landscape. Much of this historic road traverses steep mountainous slopes or valley bottoms along perennial creeks at high elevations on the west side of the park. It is the primary means of access for most park visitors to and through the park because it is the only through road and because it was designed to access many of the park's significant volcanic features and scenic characteristics. Many of the park's information areas, campgrounds, picnic areas, trailheads and concession facilities are situated along it.

As a result of its recent determination of eligibility for the National Register, actions that retain the character of the road and which avoid, minimize or mitigate effects on contributing features are important considerations for the proposed project. As with all National Park proposed actions, other important considerations also include ensuring that the project fulfills the mission of the park and the National Park Service in its preservation of park resources and the visitor experience for future generations.

At a minimum, to be considered successful, the purposes of this project must be fulfilled, including to improve public health and safety, enhance the visitor experience, preserve the historic road, improve natural resources protection, and to enable more efficient use of park road maintenance funds.

Selected Alternative

Alternative 2: Repave and Rehabilitate a Portion of the Lassen National Park Highway (Preferred/Environmentally Preferred)

The selected alternative remains the same as was identified and analyzed in the August, 2005 Environmental Analysis, with a few minor exceptions. The treatment of historic headwalls has been more clearly identified as have the site improvements at the Lake Helen Picnic Area and the site improvement at the Kings Creek Meadow pullout. The sentences under "Culvert Modifications" and "Site Specific Treatments" that have been changed are in *italics* below. All of the changes were made for clarification purposes. The clarification of the treatments in these areas does not substantially change the scope of the analysis.

The project will begin at the end of the previous main park road rehabilitation project just north of the Bumpass Hell parking lot, and extend approximately 21.7 miles (34.9 kilometers) northward to the Manzanita Lake Campground Road. The project will include the rehabilitation of this section of the main park road and roads providing visitor access to campgrounds, picnic areas, trailheads and day use areas, including 18 specific project improvement areas noted below. Rehabilitation work will also include all pavement, curbs and associated road structures, as well as repairs to concrete box culverts at Hat Creek and Lost Creek. Lastly, the project will include

obliteration of numerous gravel pullouts no longer needed for visitor use or administrative access. In addition, the following campground roads will be repaired and rehabilitated (paved): Manzanita Lake, Crags, Lost Creek and North and South Summit Lake.

Under this project, the previous phase will also be chip- sealed (from just southwest of the park entrance to just past the Bumpass Hell Parking Lot and from the junction with the Manzanita Lake Campground Road to the junction with State Route 44 at the park boundary). It will also include the Manzanita Lake Campground Access Road. Chip seal will involve placement of a thin layer of asphalt cement covered by rock chips and will result in a roughened, durable pavement surface. The entire length of the project is 30.6 miles (49.4 kilometers), including the chip seal segments.

The following activities under this project will occur and are described in more detail below: pavement rehabilitation; pullout obliteration, construction and rehabilitation; road shoulder rehabilitation; curve widening; alignment shifts, culvert cleaning, replacement and installation; and gate replacement. In addition, there will be site specific treatments at the following areas: Lake Helen Picnic Area; Lassen Peak Trailhead Parking Lot, Kings Creek Picnic Area, Kings Creek Meadow Pullout, Kings Creek Falls Trailhead, Summit Lake Campground North and South, Summit Lake Ranger Station and Trailhead Parking, Dersch Meadows, Hat Lake Parking Area, Hat Creek Box Culvert, Lost Creek Box Culvert, Lost Creek Campground, Crags Campground, Devastated Area Parking, Hot Rock Pullout, Sunflower Flat Pullout, Chaos Jumbles Pullout, Manzanita Creek Headwall, and Manzanita Lake Campground.

❖ Pavement Rehabilitation

The existing asphalt road surface along the main park road will be pulverized and compacted; a new asphalt surface will be constructed; shoulder grades will be raised with compacted aggregate to the level of the new paved surface; and pavement markings will be applied to the surface of the road. Road signs will be replaced as appropriate. The new pavement will be similar in width to the existing pavement, with widening only in a few specific areas as identified below. In places where the road base is failing, the base and sub- grade will be excavated and replaced with suitable material. Some culverts will be replaced and other culverts will be extended. Some additional culverts will be installed to correct drainage deficiencies. All new or replaced culverts will retain the native stone headwalls characteristic to the road (see *Culvert Modifications* below). Curbing and other minor features will be removed, replaced or repaired as appropriate to facilitate visitor use and to correct drainage problems.

❖ Pullout and Wide Shoulder Grading Treatments

Six different grading treatments will be employed to remove, repair or improve pullouts and shoulders along the road. These treatments are noted by type and purpose below.

Type 1 (Excavation and Berm Construction for Shoulder Benches Greater Than 2.5 m)

Approximately 0.5 miles (0.82 kilometers) will be treated with Grading Treatment Type 1, which consists of the following actions:

- Grade roadside ditch to establish or maintain drainage;
- Construct undulating (varying in width and height) berms approximately 2.3 to 3.3 feet (0.7 to 1.0 meter) high with 1:3 (vertical to horizontal) slopes;
- Scarify area to be revegetated to a minimum depth of 6 inches (150 mm);
- Use excavated material to construct berms;
- Minimize disturbance around existing trees to be retained according to instructions from project engineer; and
- Hydromulch disturbed areas to cover the extent of disturbance.

Type 2A (Placement of Barrier Stones where Drainage is Away from Road)
Approximately 0.9 miles (1.4 kilometers) will be treated with Grading Treatment Type 2A or 2B. Grading Treatment Type 2A consists of the following actions:

- Scarify area to be rehabilitated to a minimum depth of approximately 6 inches (150 mm) and hydromulch;
- Place roadway aggregate shoulder material adjacent to roadway at the edge of pavement; and
- Space barrier stones with an approximately 3 feet (900 mm) diameter 3- 4 feet (900 - 1200 mm) from edge of pavement spaced 5.5 – 7 feet (1700 – 2200 mm) apart and partially bury (approximately 1/3) in ground.

Type 2B (Placement of Barrier Stones with Ditch – Drainage toward the Road)
Grading Treatment Type 2B consists of the actions noted in Type 2A, plus:

- Grade ditch adjacent to roadway aggregate to maintain or establish drainage;
- Space barrier stones as in Grading Treatment Type 2A; and
- Scarify, seed and mulch disturbed area.

Type 3 (Excavation to Oversteepen Shoulder Benches Less Than 2.5 m)
Approximately 12.3 miles (19.83 kilometers) will be treated with Grading Treatment Type 3, which consists of the following actions:

- Scarify area to be rehabilitated to a minimum depth of approximately 6 inches (150 mm) and hydromulch;
- Place roadway aggregate shoulder material adjacent to roadway at the edge of pavement;
- Oversteepen edge of road beyond crushed aggregate to 1:3 maximum for 3 feet (1 meter) width and flatten slope to two percent to intercept existing slope. Slopes will be rounded at intercept point;
- Excavated material will be used to construct berms for Grading Treatment Types 1, 4A and 4B.

Type 4A (Construct Berm on Bench)
Approximately 1.6 miles (2.6 kilometers) will be treated with Grading Treatment Type 4A or 4B. Grading Treatment Type 4B consists of the following actions:

- Scarify existing ground prior to berm construct and hydromulch finished berm grades
- Use excavated material from Type 3 treatments to construct approximately 2- 3 feet (0.7- 1.0 meter) high berms with an undulating appearance (varying in width and height). Berms will be constructed from excavated material and be topped with topsoil;
- Place roadway aggregate shoulder material adjacent to roadway at the edge of pavement; and
- Excavate ditch at a minimum 4 feet (1.2 meters) away from the edge of pavement to maintain or establish drainage and scarify to 6 inches (150 mm).

Type 4B (Construct Undulating Backslope with Ditch and Fill against Slope)
Grading Treatment Type 4B involves back filling against an existing slope and uses the same actions noted for Grading Treatment Type 4A.

❖ **Pullout Modifications**

Consistent with the GMP, a pull- out analysis was conducted and appropriate pull- outs to be retained, added or removed along this portion of the roadway were identified. Pullouts selected to remain are needed to preserve the road's cultural history, for visitor enjoyment (as viewpoints), for visitor safety, or for road maintenance.

Of the following estimated 96 pullouts along this section of the roadway, 4 will be new, 29 will be regraded and/or repaved, and 63 will be obliterated. Most (22 of 25) paved pullouts will be retained, while, most (53 of 60) gravel pullouts will be obliterated.

The following actions will be undertaken for the pullout modifications:

- Pull- outs to be removed will be regraded and restored using native vegetation, hydromulched and seeded, or planted amongst partially buried, staggered random boulders or berms placed to deter future parking.
- Some pull- outs to be retained will be modified by reducing the pull- out width, length or shape, or their ability to accommodate interpretive waysides and most will be paved.
- Existing asphalt curbing along pullouts and the roadway will generally be removed to facilitate snow- plowing operations and to minimize the effect of these later additions to the historic roadway.
- New pullouts to accommodate visitor use and to reduce impacts to roadside resources will be added in the following areas: Lake Helen Picnic Area (southbound side); before Lassen Peak Parking Lot (southbound side); and two just past Kings Creek Meadow (one on southbound side and one on northbound side).

❖ **Road Curve Widening**

The paved surface of the road will be widened along several tight radius curves, while keeping the same alignment of the road. The disturbed areas adjacent to the inside curve widening will also be rehabilitated using the grading treatments noted above. Curves anticipated to be widened include:

- Lake Helen curve,
- Two Hairpins south of Shadow Cliffs (near stations 24000 and 24200), and
- Minor curves along the road north of Shadow Cliffs (near stations 25000, 30618, 41500, 43458).

❖ **Alignment Shifts**

A number of slight alignment shifts (approximately 21) will also occur along the road using the existing road bench, between the following stations: from 23520 – 23820, 24400 – 24720, 29000 – 29300, 31150 – 31630, 31980 – 32340, 32970 – 35210, 35500 – 36320, 37440 – 38290, 38470 – 39190, 40140 – 40760, 41900 – 42500, 43130 – 44140, 45840 – 46830, 47390 – 47680, 47900 – 48600, 49700 – 49820, 50000 – 50360, 50500 – 50770, 50940 – 51590, 53720 – 53910, and 55100 – 55450. Alignment shifts will be utilized to center the new pavement and abutting shoulders onto the existing bench areas to avoid introducing new uphill cuts or downhill fill slopes.

❖ **Culvert Modifications**

- Approximately 102 of 165 culverts (including 7 new and 14 that may no longer be present) will have some work done to them in the proposed project.
- Approximately 52 culvert inlets and outlets will be cleaned. Some interiors may also need cleaning.
- Two culvert headwalls and 4 culverts will be removed. One culvert will be realigned with its drainage channel, while 8 others will be replaced and 13 extended.
- Approximately 43 headwalls and 29 riprap aprons will be *reconstructed*. Seven new culverts will be installed (five of these where the road passes through Dersch Meadow).
- *For new headwalls that are constructed and existing headwalls that are reconstructed, efforts will be made to ensure the new masonry is similar in appearance to the historic masonry (CCC era squared/ashlar masonry). However, differences in mortar and stone appearance will be sufficient to ensure that the new masonry can be differentiated from the original masonry upon close inspection. Existing materials (stone) will be utilized whenever possible.*

- **Road Gate Replacement**

Road gates throughout the park are comprised of many different styles and several (on the following roads) will be replaced with a consistent design.

- Summit Lake North Campground,
- Summit Lake South Campground,
- Lost Creek Water Treatment Plant,
- Lost Creek Group Campground,
- Crags Campground, and
- South of Manzanita Lake on the main road.

- **Staging**

Staging areas for equipment and materials will be in previously disturbed, park- approved locations. Major staging will occur at the Lost Creek Helispot/Maintenance Area (staging area). Staging areas will be protected from spillover impacts by the placement of silt fencing or other barriers as appropriate and will be returned to pre- construction conditions upon completion of the proposed project. Only the southern portion of this area may be used, the northern portion of area (existing helipad) must and will be kept clear for emergency use.

Lost Creek Helispot/Maintenance Area (Primary Staging Area)

This old pumice quarry area, near the Devastated Area, about 0.5 miles (0.87 kilometers) south of Hot Rock Pullout, now functions as a helispot and park Maintenance staging area. To avoid the helispot/take- off area on the north, materials will be stored lengthwise and/or toward the southern end of the site. Staging will not expand beyond the upper paved area down into the lower pumice quarry site.

- **Borrow Pits/Use of Native Materials**

Rock removed from ditch cleaning by the park is stockpiled at the Lost Creek Pit. Approximately 10,500 cubic yards of fill is required for the proposed rehabilitation. This fill will be obtained from other portions of the project area and will primarily be used in the following locations:

- Lake Helen curves and Lake Helen Picnic Area,
- Kings Creek Trailhead,
- Dersch Meadows widening, and
- Where use of Grading Treatment Type 4 is employed.

Boulders for placement in restored or minimized pullouts and road shoulders will come from outside the park, and from road rehabilitation excavation or other areas along the road corridor. Rocks, whether obtained from the park or from outside sources, will be similar in texture and color to the surroundings into which they are placed.

- **Construction Delays**

Visitors to the park could encounter construction delays of up to 30 minutes Monday through Friday. To minimize impacts on the busiest days, no construction delays will occur on weekends or federal holidays unless approved through specific authorization of the park superintendent, with adequate public notification. Work that will affect major visitor use areas, such as the Kings Creek Picnic Area or the Manzanita Lake Campground Road will be scheduled late in the season to avoid the greatest potential for visitor use impacts due to area closures that will need to occur. A public information campaign will be initiated to inform visitors and local residents of construction delays and closure scheduling. Public notices will include press releases and

information in the park newspaper. The California Department of Transportation statewide toll-free telephone road conditions message will also be notified of the project construction delays and scheduling.

- **Disturbed Area Rehabilitation and Restoration**

As earthwork concludes, disturbed areas will be hydromulched by a contractor. Some areas will also be hand- seeded and/or planted by the park or its revegetation contractor. Topsoil and duff will be salvaged to the degree possible from the road corridor and pullouts, and applied to priority areas by the contractor as available and directed by the park. Disturbed areas not receiving topsoil may be treated with soil amendments or growth stimulants as they are planted. Based on past experience with road rehabilitation and other restoration projects in the park, the most effective hydroseeding technique is to employ a two step process in the fall: 1) hydroseed, 2) hydromulch (with tackifier and paper mulch).

Approximately 6 hectares (14.8 acres) of previously disturbed area within the road prism (primarily attributed to pullout obliteration and wide bench obliteration and installation of culverts at Dersch Meadow) will be disturbed by the proposed improvements. This area also includes minor road widening at the Kings Creek culvert and some fillslope modifications.

To facilitate rehabilitation of these areas, the following actions will occur:

- The proposed road contractor will complete earthwork (such as placement of berms, boulders and scarification) according to contract documents to ensure adequate surface preparation for restoration/revegetation.
- Prior to construction, site specific and species specific seed collection will occur along the length of the project area.
- Revegetation treatments will include hydroseeding (mechanical seeding), hydromulching, hand seeding with native perennial grasses, and spot tree and shrub planting. Revegetation will occur following road rehabilitation work proposed under this alternative.
- The revegetation strategy will rely heavily on natural regeneration from conserved topsoil. Blue wild rye, a fast establishing native grass, will provide initial erosion control. Revegetation plantings will use native species that are slower to establish naturally (e.g. red/white fir, western white pine, pinemat manzanita) and will be from genetic stocks originating in the park. The principal goal is to assist natural regeneration in re-establishing a sustainable native plant community similar to surrounding undisturbed vegetation.
- Revegetation success will be monitored by park staff to ensure its successful implementation and compliance with applicable permitting requirements.
- The primary revegetation areas include obliterated pullouts and wide road shoulders where various grading treatments will result in either undulating berms or the placement of staggered random boulders to deter future parking use.
- Although some revegetation will be done by park staff, the park will also contract with appropriate sources for seed propagation and restoration treatments such as duff salvage, plant propagation and planting.

- **Monitoring**

FHWA will work in cooperation with the NPS to provide oversight and compliance monitoring of contractor activities throughout the duration of the project. NPS staff will periodically conduct onsite monitoring construction activities or inspection of materials to ensure protection

of park resources. Arrangements will be made to inspect all equipment and materials entering the project.

❖ **Site Specific Treatments**

Site improvements will be made for various reasons, including: to improve accessibility, to reduce the existing resource impacts from the current road, and to improve visitor safety and the visitor experience.

Site specific improvements will be made at:

- Lake Helen Picnic Area: create a left turn lane, redesign entrance, *reduce size of existing gravel parking area and rehabilitate that area, and* pave *remainder for smaller* parking lot.
- Lassen Peak Trailhead: 1) install increased capacity drainage structures to correct flooding and ditch scouring along the main park road during spring snowmelt; 2) install a drystack rock wall at the foot of the slope bordering the northern edge of the parking lot to prevent slope raveling and to assist in discouraging pedestrian use of the slope area which results in this denuded area of loose rock; and 3) resurface the parking lot with a chip seal to seal cracks and prevent water entry and related damage to base course materials, and to retard further surface deterioration.
- Kings Creek Picnic Area: replace pipe culverts with bottomless box culverts; increase road width at culverts; and pave gravel parking area, road and turnaround.
- Kings Creek Meadow Pullout: reduce size (restore wetland functions) and add a new *paved* pullout across the road.
- Kings Creek Falls Trailhead: Realign road, redesign parking pullouts, construct a walkway/curb/stone stairway, improve trailhead and install a new culvert/catch basin outlet.
- Summit Lake North and South Campgrounds: repave campground loop roads and campsite parking pads.
- Summit Lake South Campground: rehabilitate access road and day use parking area, and modify parking and walkways.
- Summit Lake North Campground: Increase width of entrance road; pave road and parking areas; and replace existing culverts.
- Summit Lake Ranger Station and Trailhead Parking: widen road slightly; repave and stripe the parking lots; and replace existing culverts.
- Dersch Meadows: Increase number and size of culverts underneath roadway to allow continuous conveyance of water; slightly increase width of road; and construct a steepened rock fill to retain the road.
- Hat Lake Parking Area: repave parking area, replace asphalt curb with colored concrete curb, and pave walkway through island, adding curb cuts.
- Hat Creek and Lost Creek Box Culverts: Repair concrete deterioration within and on headwalls of Hat Creek Box Culvert and Lost Creek Box Culvert. Repair erosion adjacent to Hat Creek Culvert.
- Lost Creek/Crags Campgrounds: Repave/rehabilitate existing campground loop roads and campsite parking pads.
- Devastated Area: Rehabilitate parking area and improve restroom accessibility by creating new asphalt sidewalk.
- Hot Rock Pullout: Repave, reduce and rehabilitate for accessible interpretive exhibit.
- Sunflower Flat Pullout: Reduce and pave pullout, restoring area beyond.
- Chaos Jumbles Pullout: Pave parking area and rehabilitate for accessible interpretive exhibit.
- Manzanita Creek Culvert: Face steel plate culvert headwalls and wingwalls with stone.
- Manzanita Lake Campground: Repave/rehabilitate existing campground loop roads and

campsite parking pads.

The site specific improvements above will result in the removal of the following trees:

- Lake Helen Picnic Area [two clumps of trees with approximately 12 small mountain hemlocks (2- 4 inches or 50- 100 mm) in one and eight mountain hemlocks (2- 6 inches or 50- 150 mm) in the other];
- Kings Creek Meadow pullout [several small lodgepole pines (2- 4 inches or 50- 100 mm)]);
- Kings Creek Picnic Area [one lodgepole pine (est. 12 inches or 300 mm)];
- Kings Creek Falls Trailhead [two mountain hemlocks (est. 12 and 18 inches or 300 and 450 mm respectively and one red fir (est. 36 inches or 900 mm)];
- Summit Lake Trailhead Road and Parking Area [15- 20 small lodgepole pines (1- 3 inches or 25- 75 mm)];
- Dersch Meadow [numerous small lodgepole pines (2- 4 inches or 50- 100 mm)]; and
- Hat Creek Box Culvert [one small lodgepole pine (est. 6 inches or 150 mm)].

Summary of Other Alternatives Considered

Alternative 1: Continue Current Management (No Action)

Under this alternative, no new rehabilitation or comprehensive resurfacing would take place. This alternative would not address improvements to the condition of the road, resource impacts from the existing road, safety issues or improvements to the visitor experience. Although no comprehensive repairs to the road would occur, this alternative would continue to result in routine maintenance actions, including snow removal; spring opening; unpaved road grading, shaping and repair; paved road asphalt patching, crack sealing, and application of slurry- or chip- seal treatments; ditch clearing; culvert cleaning; vegetation maintenance; traffic control striping; and signage replacement as needed (and as summarized below). This alternative would also result in some minor reconstruction of existing road features if failure occurred. The impacts of major rehabilitation or reconstruction treatments, however, have not been included in this analysis. Because the overall condition of the road would not undergo comprehensive improvements, the portion not affected by the 2002- 2003 project (Phase I rehabilitation) would likely continue to deteriorate. Over time, this deterioration could result in increasingly uneven pavement, narrowing lane width and other road conditions that would adversely affect both visitor safety and experience on the road and within the park, as well as the quality of wetland, forest and other resources along the road, including the quality of the road resource itself and its continued eligibility for the National Register of Historic Places.

Alternatives Considered But Rejected

The following alternatives were also considered but ultimately rejected:

- Pavement only repair and rehabilitation (entire roadway);
- Other surfacing treatments for Devastated Area walkways;
- Different options for the Lassen Peak Parking Area culvert modifications;
- Other options for restoring cross- road wetland flow in Dersch Meadows;
- Head- in parking at Kings Creek Meadow, Sunflower Flat and Chaos Jumbles; and
- Various rock wall configurations and other trailhead improvements at Kings Creek Trailhead.

These alternatives were rejected for a variety of reasons which included, but were not limited to, a lack of resource protection, unacceptable levels of accessibility, unacceptable impacts on wetlands, safety concerns, and incompatibility with the cultural landscape.

Environmentally Preferred Alternative

As described in the National Environmental Policy Act, the Environmentally Preferred Alternative is the alternative that will:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- Ensure for all Americans, safe, healthful, productive and esthetically and culturally pleasing surroundings;
- Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- Preserve important historic, cultural and natural aspects of our natural heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
- Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Generally, these criteria mean the environmentally preferable alternative is the alternative that causes the least damage to the biological and physical environment and that best protects, preserves, and enhances historic, cultural, and natural resources (46 FR 18026 – 46 FR 18038).

In this Environmental Assessment, the Alternative that best meets these criteria is Alternative 2, the Preferred Alternative. Review of resource and visitor impacts and mitigation strategies has found that the preferred alternative achieves the greatest balance between the need for repairing the road and the need for preserving natural and cultural resources and improving the visitor experience in the park. This alternative was selected as the best alternative when taking into account greater enhancements and upgrades to park maintenance operations, visitor and employee safety, and long- term operational costs. The Preferred Alternative has the following benefits not found or not found to the same degree in the no action alternative:

- Minimizing loss of natural and cultural resources
- Protecting public health, safety, and welfare
- Improving operations efficiency and sustainability, and
- Protecting employee safety and welfare.

Why The Selected Actions Will Not Have A Significant Effect

As documented in the Environmental Assessment, the NPS has determined that the selected alternative can be implemented with no significant adverse effects on soils, water quality, vegetation, wildlife, special status species, prehistoric and historical archeology, ethnographic resources, historic structures and cultural landscapes, visitor experience, or park operations.

NEPA requires that decision- making regarding the analysis of significance be based on analysis of the proposed action with respect to the following factors:

Beneficial and Adverse Effects

The selected alternative has a wide range of beneficial and adverse effects (see Impact Mitigation Matrix below). As shown below in the impact mitigation matrix, these short- and long- term effects will not result in impairment.

Degree of effect on public health or safety
The selected alternative will not adversely affect public health or safety.

Unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, wetlands, wild and scenic rivers, or ecologically critical areas
The selected alternative will not impact unique characteristics of the area, including prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas. The proposed actions call for improvements to the Lassen Volcanic National Park Highway and will not result in the loss of such characteristics because these characteristics are either not present or not affected by the selected alternative.

Degree to which effects on the quality of the human environment are likely to be highly controversial
There were no controversial impacts or aspects of the proposed project that surfaced during the environmental analysis process. The effects on the human environment are known and have been described in the Environmental Assessment.

Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration
The selected alternative neither establishes an NPS precedent for future actions with significant effects nor represents a decision in principle about a future consideration.

Degree to which the action may adversely affect districts, sites, highways, structures or objects listed on the National Register of Historic Places or may cause the loss or destruction of significant scientific, cultural or historic resources
The selected alternative will have negligible to minor adverse effects (no adverse effect) and moderate beneficial effects on cultural resources. It will not result in the loss or destruction of significant scientific, cultural or historic resources.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat
There will be no effect on any listed species from the actions proposed in the selected alternative.

- Whether the action is related to other actions with individually insignificant but cumulatively significant effects;
- Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks; and
- Whether the action threatens a violation of federal, state or local environmental protection law.

No significant cumulative effects and no highly uncertain, unique or unknown risks were identified during preparation of the Environmental Assessment or during the public comment period. The selected alternative will not violate any federal, state or local environmental protection laws.

Impact Mitigation Matrix

The following summary identifies the impacts and mitigation documented and discussed in the Environmental Assessment. This summary assigns responsibility for ensuring that the measures, which minimize these impacts, are implemented as part of the preferred alternative.

All mitigation measures described in this section will be implemented. Further mitigation measures may be developed in response to ongoing informal consultation on this project and may also augment the measures described below. The measures identified below are designed to ensure that impacts to park natural and cultural resources, visitor use/experience and park operations are avoided, minimized or mitigated.

Resource	Impact	Measures to Avoid, Minimize or Mitigate Impact	Responsible Staff
Soils	Localized negligible to moderate adverse impacts from excavation and grading, soil mixing, and creating impermeable walkways/additional paving. Localized minor to moderate beneficial effects from restoration of denuded areas.	The following avoidance, minimization and mitigation measures will limit effects on area soils: Limiting work to the designated construction limits (area affected by road construction activities); Using excavated soil from the proposed grading treatments within other grading treatments; Scarifying (ripping) soils to decrease compaction wherever restoration treatments are prescribed; Sculpting revegetated areas to blend with surrounding terrain; Applying hydromulch and seed or plants to areas to be restored; Reusing excavated material to construct berms or regrade areas of impact; Revegetating obliterated pullouts through seeding or planting (using soil additives where appropriate or needed); Constructing naturally appearing undulating berms and scattering random rock placement in obliterated pullouts; and Importing only weed-free specified clean fill materials.	Project Manager Plant Ecologist Chief of Natural Resources
Water Resources: Water Quality	Localized negligible to minor, short-term adverse impacts coupled with long-term minor to moderate beneficial impacts (increased water flow/capacity) from culvert repair, replacement or installation. Localized long-term negligible to moderate beneficial impacts from new paving by decreasing sedimentation (improving water quality).	Storm water management mitigation measures will be employed to control erosion and sedimentation during construction. The project design includes improvements in water collection and conveyance. To minimize the potential for water quality impacts to occur, the following Best Management Practices (BMPs) will be used during (and submitted and approved prior to) construction: Using temporary sediment control devices such as filter fabric fences, sediment traps, or check dams as	Project Manager Chief of Natural Resources

Resource	Impact	Measures to Avoid, Minimize or Mitigate Impact	Responsible Staff
		needed during culvert replacement. Covering stockpiled soil and rock throughout the duration of the project with semi-permeable matting or plastic or another type of erosion control material. Minimizing soil disturbance and re-seeding or revegetating disturbed areas as soon as practical. Retaining silt fencing in disturbed areas until stabilization by reseeding or revegetation. Using swales, trenches, or drains to divert storm water runoff away from disturbed areas. Locating staging areas away from areas where water will runoff to adjacent rivers and streams. Tackifier/paper mulch may be used for erosion control in revegetated areas. Elsewhere, silt fences and seed-free curlex logs may be used for erosion control. Contractor must submit an erosion control plan and storm water pollution prevention plan (required by California Water Quality Control Board). Turbidity (a measure of water quality) will be monitored upstream and downstream from project activities and actions taken upon unacceptable readings.	
Water Resources: Wetlands	Permanent impacts to 0.028 acres of wetlands and temporary effects to 0.123 acres (0.151 acres total). Of the wetlands impacted, only those at Kings Creek Meadow (0.001 acre), Kings Creek Culvert (0.012 acres) and Dersch Meadow (0.040) will be considered jurisdictional (subject to wetlands permitting under the U.S. Army Corps of Engineers administration of the Clean Water Act). Permanent adverse effects include the loss of wetland soils and vegetation when they are replaced by compact aggregate fill or riprap. Temporary adverse effects will include the loss of	Same as above plus impacts have been limited to the minimum necessary to restore wetland function (Dersch and Kings Creek meadows) and to construct other roadway improvements.	Project Manager Chief of Natural Resources Plant Ecologist

Resource	Impact	Measures to Avoid, Minimize or Mitigate Impact	Responsible Staff
	existing vegetation and will be temporary because vegetation, particularly low herbaceous grasses and grass-like plants, will readily reestablish in these areas following disturbance. Temporary adverse effects could also include some sedimentation around culvert ends from placement of silt fencing to protect areas outside the limits of construction. Non-jurisdictional wetlands impacts at Manzanita Creek Culvert, Hat Creek Box Culvert, Lost Creek Box Culvert and many unnamed culverts totaling (0.475 acres – temporary and permanent impacts). These wetlands impacts will occur in areas previously impacted by road construction activities and fall under an excepted action in NPS compliance with the executive order on the protection of wetlands.		
Water Resources: Water Quantity	The limited use of water from Kings Creek, Manzanita Lake or the park's domestic water supply to control dust and to aid in road project implementation will have a minor to moderate localized adverse effect on water quantity.	The supply of water for this system has repeatedly proven to be far greater than demand, with sufficient supply for domestic needs as well as firefighting.	Project Manager
Vegetation	Negligible to minor localized impacts from the application of grading treatments and curve widening. Long-term minor to moderate beneficial effects from restoration. Indirect effects from discouragement of visitor use following restoration will also add long-term negligible to minor beneficial effects. Localized long-term negligible to moderate effects from the removal of trees and other incidental vegetation during rehabilitation of minor developed areas, roadside ditches and culverts. Reestablishment of plants following these activities will constitute a negligible long-term beneficial effect.	Equipment (including hydroseeder) used in the project will be cleaned prior to use in the park. The contractor will control exotic species prior to importing materials from quarries or borrow areas outside the park. No straw mulch will be used for erosion control. Tree wells or other protection will be used around trees to be retained, especially those that are within or directly adjacent to the limits of construction. A monetary damage clause for impacts to trees/vegetation not within the project area will be part of the contract for road rehabilitation. Fill materials imported from outside the park will be from approved commercial sources and will be inspected and/or approved by NPS staff prior to importation into the	Project Manager Plant Ecologist

Resource	Impact	Measures to Avoid, Minimize or Mitigate Impact	Responsible Staff
		park. Staging areas will be protected from spillover impacts by the placement of silt fencing or other barriers as appropriate and will be returned to pre-construction conditions upon completion of the proposed project. Only native species, appropriate to the site will be used in revegetation (seeding or planting). Salvage of topsoil and duff will occur in and adjacent to the rehabilitated shoulders and pullouts as appropriate, subject to approval from park staff. Salvage of vegetation will occur to the degree possible; staff time and need permitting, however most plants will be propagated from seed collected within each plan community along the road where revegetation is needed.	
Wildlife	Short-term negligible to moderate adverse impacts from noise and disturbance associated with the rehabilitation project and long-term negligible to minor beneficial impacts from increasing plant cover associated with changing the condition of road shoulders and pullouts.	Impact areas and construction periods have been kept to the minimum necessary for the proposed project. Restoration of denuded areas and removal of some pullouts will incrementally increase the availability of wildlife habitat. The following measures will contribute to reduced wildlife impacts: Above ambient noises from road repair will coincide with the busy summer season. Evening work will not occur or will be rare, subject to specific approval from the superintendent. The potential for sedimentation will be avoided through the use of best management practices in work near water. There will be no widening of the road which will encroach on intact habitat.	Project Manager Wildlife Biologist
Special Status Species	Because no habitat for any listed, rare, or sensitive species will be affected by the proposed actions and because many of those species also do not occur in the	No Special Status Species will be affected.	Project Manager Wildlife Biologist Plant Ecologist

Resource	Impact	Measures to Avoid, Minimize or Mitigate Impact	Responsible Staff
	vicinity of the project area, there will be no effect on any listed, candidate, rare or sensitive wildlife.		
Archeological Resources	Increased potential for finding previously unidentified archeological resources due to some new disturbance and re-disturbance of areas previously impacted by roadway construction.	Construction will take place primarily in areas previously impacted by road construction. Standard survey and stop work mitigation measures will apply to any areas disturbed. Should presently unidentified archeological resources be discovered during construction, work in that location will be halted, the park Cultural Resources Program Manager contacted, the site secured, and the park will consult according to 36 CFR 800.11 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990. Any archeological site will be properly recorded by an archeologist and evaluated under the eligibility criteria of the National Register of Historic Places. If the resources are determined eligible, appropriate measures will be implemented either to avoid further resource impacts or to mitigate their loss or disturbance (e.g., by data recovery excavations or other means) in consultation with the California State Historic Preservation Office. In compliance with the Native American Graves Protection and Repatriation Act of 1990, the National Park Service will also notify and consult concerned Native American representatives for the proper treatment of human remains, funerary and sacred objects, should these be discovered during the course of the project.	Project Manager Cultural Resources Program Manager
Ethnographic Resources	No impacts.	No known ethnographic resources are found in the project area.	Project Manger Cultural Resources Program Manager
Historic Structures/ Cultural Landscapes	No adverse effect on historic structures or the eligibility of the Lassen Volcanic National Park Highway as a cultural landscape.	Changes will adhere to the Secretary's Standards (including with respect to the design of new features and reconstruction of existing historic features using historic materials to the degree possible). Proposed actions will result in the retention of historic	Project Manager Cultural Resources Program Manager

Resource	Impact	Measures to Avoid, Minimize or Mitigate Impact	Responsible Staff
		designed features of the road that planners envisioned and that have contributed to visitor enjoyment dating from the historic period. For new headwalls that are constructed and existing headwalls that are reconstructed, efforts will be made to ensure the new masonry is similar in appearance to the historic masonry (CCC era squared/ashlar masonry). However, differences in mortar and stone appearance will be sufficient to ensure that the new masonry can be differentiated from the original masonry upon close inspection. Existing materials (stone) will be utilized whenever possible.	
Visitor Experience: Visitor Access and Opportunities	Short-term, negligible to moderate adverse effects on visitor access as visitors are directed around or unable to visit certain areas during construction. Increased opportunities for visitors at the conclusion of the project, especially those with mobility problems or large vehicles to access the park. New interpretive opportunities will complement the aesthetics of the improved road, resulting in both minor beneficial and adverse effects on visitor access and opportunities. Negligible effects could occur as a result of the obliteration of some pullouts.	Work that will affect major visitor use areas will be scheduled at the end of the season to avoid impacts to the greatest number of people. Materials deliveries will take place in the early morning and late evening hours as much as is practicable in order to minimize their impact and will proceed along the shortest route possible. Park visitors will be informed of construction delays through various means, including the park newspaper, press releases to local media, signs in the park and state highway information road condition (phone) reports.	Project Manager Chief Ranger Chief of Interpretation
Visitor Experience: Safety	Long-term minor to moderate beneficial effects will be realized from rehabilitating the road, improving minor developed areas, directional signage and improved pullouts/recovery zones and road shoulders. These changes will result in minor to moderate improvements to visitor safety, lessening confusion and improving the ability of visitors to enjoy accessing these areas. Negligible to minor beneficial impacts will result from improvements associated with further separating pedestrians and vehicles in the access of day use areas.	The proposed project has been designed to improve visitor safety. This will result in a beneficial impact on visitor safety; therefore, no mitigations are necessary for long-term effects. While construction is occurring, professionals trained in safe traffic control will be utilized for any traffic re-routes or delays that become necessary. Park visitors will be informed of construction activities through various means, including the park newspaper, press releases to local media, signs in the park and state highway information road condition (phone) reports.	Project Manager Chief Ranger

Resource	Impact	Measures to Avoid, Minimize or Mitigate Impact	Responsible Staff
Park Operations	Systematic improvements (visitor, resource, safety, and others) to the main park road and associated minor and major developed areas will result in long-term improvements that will constitute a minor to moderate beneficial effect on park operations. Until the deterioration of such resources began anew, the park will realize benefits from systematic improvements related to water conveyance and improved visitor access and opportunities, resulting in long-term negligible to minor to moderate beneficial effects.	The proposed project has been designed to improve visitor safety, visitor management, resource protection and to increase the lifespan of the roadway. This will result in a beneficial impact on park operations; therefore, no mitigations are necessary.	Project Manager Chief of Maintenance

Public Involvement

Lassen Volcanic National Park conducted both internal scoping with appropriate NPS staff and external scoping with the public and interested and affected groups, agencies, and tribes to determine the range of issues to be discussed in this Environmental Assessment. Staff of Lassen Volcanic National Park, FHWA, and resource professionals of the NPS Denver Service Center and Pacific West Region conducted internal scoping. This interdisciplinary process defined the purpose and need, identified potential actions to address the need, determined the likely issues and impact topics, and identified the relationship of the preferred alternative to other planning efforts in the park. A series of meetings were held among Federal Land Highway Program, park and other National Park Service staff and consultants to identify project objectives and to evaluate designs for specific project components. These meetings and conference calls took place regularly from August, 2003 thru May, 2005.

A press release initiating the public scoping process and comment period was issued on March 4, 2004. No comments or questions were received as a result of issuing this press release, which was published in the following newspapers: *Chester Progressive* and *Redding Record Searchlight*. The press release was also published on the park's website, located at http://www.nps.gov/lavo.

This Environmental Assessment was issued for a thirty- day public review period ending September 8, 2005. A press release notifying the public of the review period was submitted to several local newspapers on August 5, 2005 and was published in the following newspapers: *Red Bluff Daily News, Chester Progressive, and Redding Record Searchlight*. A notice was also sent on May 10, 2005 to a list of persons and businesses that have expressed interest in Lassen Volcanic National Park. Enclosed with this notice was a postcard that individuals were to return to the Park by May 31, 2005 if they wished to receive a hard copy of the EA once it became available for public review. Those who returned postcards (9 individuals), along with 120 agencies and organizations such as The Wilderness Society and Sierra Club, and 8 local public libraries were mailed a hard copy of the EA on August 8, 2005. The EA and press release were also published on the park's website, located at http://www.nps.gov/lavo.

Agency Consultation

Native American Indian Tribes: Letters notifying the local Native American Tribes (Redding Rancheria, Pit River Tribe, Susanville Indian Rancheria, Greenville Rancheria, and Mooretown Rancheria) were sent on October 4, 2004. No comments were received.

U.S. Fish and Wildlife Service: Because there will be no effect on listed or candidate species from the alternatives in this Environmental Assessment, no further Section 7 (Endangered Species Act) consultation with the USFWS is necessary for the selected alternative.

California State Historic Preservation Office: Initial notification of the development of the EA was made to the California State Historic Preservation Office (SHPO) via a notification letter. On August 7, 2005, a copy of the EA was sent to the SHPO along with a letter informing that office that the archeology survey report had not yet been received by the park from the contractor, and the report would be sent to the SHPO once the park received it. On October 17, 2005 the survey report and a request for concurrence with a determination of "no adverse effect" for the actions contained in the project was sent to Mr. Milford Wayne Donaldson, California State Historic Preservation Officer. In December, 2005, the park had not received a concurrence letter from the SHPO so they were contacted by phone. The park was told that, while the SHPO did have a record of receiving the request, they did not have a record of it being reviewed and considered it misplaced. On January 3, 2006 the park sent another letter requesting that the project be reviewed. The park confirmed with the SHPO that they received this request on January 9, 2006. The park contacted the SHPO the week of February 21, 2006 and was told that the project still had not been reviewed. The park then contacted the Deputy SHPO and he put us in contact with the NPS point of contact at the SHPO and she reported she would review it as soon as possible. The park again contacted the SHPO on March 2, 2006 and was told that the SHPO was unable to locate the park's documents. The documents were sent via an ftp internet site and a letter of concurrence was received via email the afternoon of March 2, 2006.

Public Comments

Two comments regarding the EA were received by the Park. The first letter, dated August 10, 2005, was received from the U.S. Bureau of Reclamation. Their letter stated they had reviewed the document and they had no comments. The second comment was received by the park on September 14, 2005 via email. This individual voiced his concerns about the expense of the project and recommended that more large pullouts that could accommodate RVs be a part of the project. Indeed, the project does take into account the needs of visitors in RVs and several new, paved pullouts will be constructed that will accommodate these and other vehicles in popular areas.

IMPAIRMENT DISCLOSURE

In addition to determining the environmental consequences of the preferred and other alternatives, NPS policy (*Management Policies 2001*) requires analysis of potential effects to determine whether or not actions will impair park resources. To ensure fulfillment of the NPS mission, NPS Management Policies also requires decision makers to consider impacts and to determine in writing (before approving an action) that a proposed action will not lead to impairment of park resources or values.

> The fundamental purpose of all units of the NPS is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of

> the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

As a result, NPS managers seek ways to avoid or to minimize, to the greatest degree practicable, adverse impacts on park resources and values. Impacts to park resources and values may occur when necessary and appropriate to fulfill the purposes of a park, as long as these impacts do not constitute impairment of the affected park resources and values.

Impairment is an impact that, in the professional judgment of the NPS manager, will harm the integrity of park resources or values, including the opportunities that will otherwise be present for enjoyment of these resources or values. Management Policies (NPS 2001) provides further guidance for NPS decision- makers to use in analyzing whether a proposed action will result in impairment.

> An impact is more likely to constitute impairment to the extent that it affects a resource or value whose conservation is
> - Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
> - Key to the natural or cultural integrity of the park or to the opportunities for enjoyment of the park; or
> - Identified as a goal in the park's general management plan or other relevant National Park Service planning documents.
>
> An impact will be less likely to constitute impairment to the extent that it is an unavoidable result, which cannot reasonably be further mitigated, of an action necessary to preserve or restore the integrity of park resources or values.
>
> As with many of the management actions considered by the NPS, the careful balance of sometimes competing park resources and values is an important component of the environmental analysis and decision- making process. All elements of an NPS action, however must avoid impairing park resources.

Though providing for the enjoyment of park resources and values by the people of the United States is also a NPS mandate, the NPS has been directed by Congress that in cases where there is a conflict between conserving resources and values and providing for the enjoyment of them that conservation is considered predominant.

The EA identified and evaluated impacts to a host of park resources and values, an analysis that considered the severity, duration, and timing of direct and indirect impacts. The impacts disclosed herein occur in areas that have long been cornerstones of visitor use. The EA found that there will be no major adverse impacts to a resource or value whose conservation is 1) necessary to fulfill the specific purposes identified in the park's enabling legislation; 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or 3) identified as a goal in the park's General Management Plan or other relevant planning documents. Consequently, the selected alternative will not result in impairment of park resources or values.

The selected alternative was chosen because it best accomplishes the legislated purposes of the park and the statutory mission of the NPS and the purpose and need for the plan.

FINDING

On the basis of the information contained in the Environmental Assessment as summarized above, it is the determination of the National Park Service that the proposed project is not a major federal action significantly affecting the quality of the human environment. Nor is it an action without precedent or similar to an action that normally requires an Environmental Impact Statement. This conclusion is supported by the environmental analysis and listed mitigation measures, which will reduce or eliminate impacts. This conclusion also included due consideration of public comments. The California SHPO has concurred with these findings. Therefore, in compliance with the National Environmental Policy Act, an Environmental Impact Statement will not be prepared.

The conclusions of non- significance are based primarily on the minor scope of the proposed impacts and on the mitigation measures that were included to avoid, reduce or eliminate other potential impacts that could be associated with the selected alternative.

Upon approval, some portions of the selected alternative will be implemented immediately, while others will be implemented as soon as practicable, pending other requirements, funding and staffing.

Recommended:

Mary G. Martin, Superintendent — Date
Lassen Volcanic National Park

Approved:

Jonathan B. Jarvis, Regional Director — Date
Pacific West Region

ORIGINAL SIGNATURES FOR THIS DOCUMENT ARE ON FILE AT THE DIVISION OF NATURAL RESOURCES AT LASSEN VOLCANIC NATIONAL PARK.